ABSTRACT OF THE DISCLOSURE

An asymmetric reaction catalyst is obtained by mixing a pentavalent niobium compound and an optically active triol or tetraol having a binaphthol structure of R or S configuration, and the triol is represented by the following formula:

(wherein, Y is divalent hydrocarbon and R^1 is a hydrogen atom, a halogen atom, a trifluoromethyl group, or an alkyl group or alkoxy group having at most 4 carbons).

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